

the fourth generation solar pump
PMSM BLDC sensorless
built-in electronic AC/DC hybrid solar pump



First built-in electronics solar pump company in China. The pump's innovative design allows it to be powered with both AC and DC sources without making any modifications to the pump or adding additional equipment.

Max. power output is 2200 W. The speed range for the motor is 500-3600rpm depending on the power input and the load. The motor has been developed especially for the Solar Deep Well Pump System. The motors are based on the most advanced technology within rare earth permanent magnets. The motors have a built-in electronic unit containing a frequency converter and motor controller. The Samking pump features variable speed which is offered through vector control. This means that the pump can be set to operate in any operating point in the range between the pump Min. and Max. performance curves. The system has a variety of applications, such as Rural water supply for ranches, cabins, and cottages, Outlying area, area where lack of electric power, New energy sources application, Building/Small water-works/Domestic water supply/Tank applications, Irrigation and Small water work, Landscaping, City, Factory, and commercial establishment water supply, Water conservancy system, Fountains, Wildlife refuge.

Main Function

- Brushless, water cooling, frequency converter and controller built in
- Hybrid powered by AC/DC, Power Range: 0.5HP-3HP
- Soft starting running
- Trust bearing system
- Supply Voltage Range: 60-380Vmp or 90-240VAC at 50/60 Hz, maximum VOC440V
- Motor Efficiency high
- MPPT Efficiency high
- GPRS (optional)
- Generator auto turn on/off (optional)
- Enough protection (Dry protection, Reverse protection, Over head protection, Overload protection, Over-Current protection, over voltage protection, Over power protection, Lighting protection)
- SS304
- 2 years warranty

Question: Why Samking solar pump use frequency converter

Answer: variable frequency motor will actively change their speed according to the all-time changing power which is provided by solar panels. Perfect combination with MPPT, ultra-frequency operation, make sure absorb above 95% power provided by panels. Improve customer return on investment. The traditional AC motor only gets maximum speed is 2850RPM, and it only could passively discharge according to the voltage, not according to power. Efficiency will be low.

Question: Why Samking solar pump use shield motor

Answer: shield design makes the mechanical seal unnecessary, avoiding the risk of mechanical seal leakage because of mechanical seal wear and tear. Avoiding the reduction of efficiency because of mechanical seal friction also. At the same time, wet rotor cooling is better.

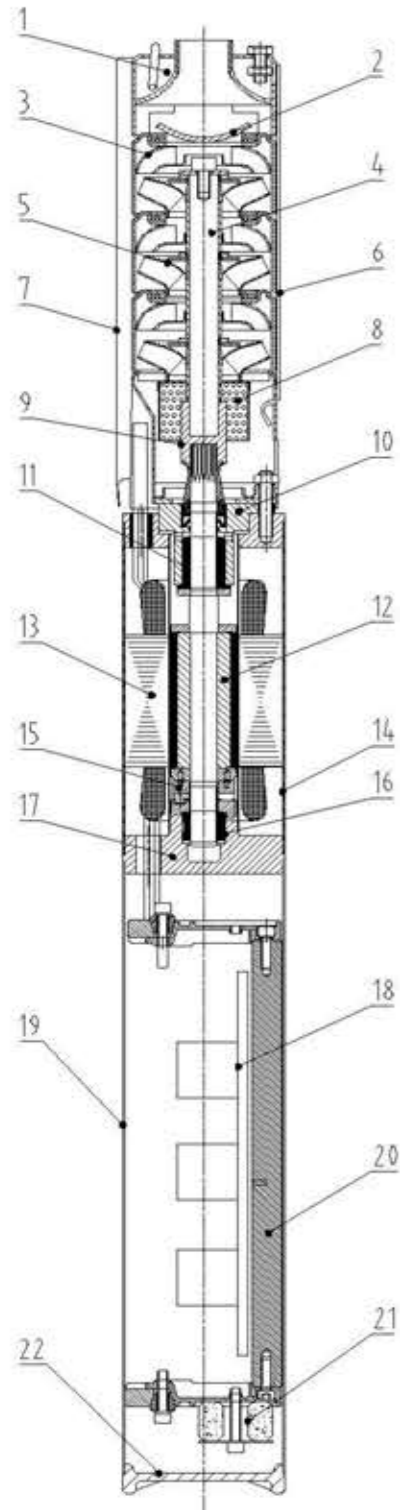
Question: Why Samking solar pump use Permanent Magnet motor not AC motor

Answer: Our magnetic field of permanent magnet motor is provided by permanent magnet itself (rare earth), have not any loss of efficiency. While traditional AC motor's magnetic field is provided by rotation of rotor and stator, so part of input power is used to generate magnetic field, reduces efficiency.

Question: Why Samking solar pump use BLDC motor not brush DC motor

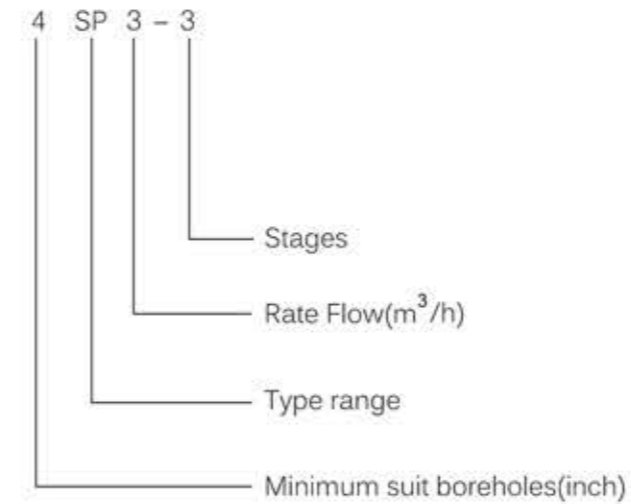
Answer: Although brushed DC motor can work directly with solar panels also, it's not a good option, there are following differences from BLDC. Life of BLDC motor is 10000H, while brush pump maximum life is 2000h~3000H because of brush and slip wear and tear. DC brush pump system has very low efficiency without MPPT. There isn't any protection because of without controller also. Too noise. Safety is significantly lower than BLDC motor.

Components & Materials



Component	Material
1 Discharge chamber	Stainless steel 304
2 Non-return valve	Stainless steel 304
3 Guide vanes	PC/Stainless steel 304
4 Pump shaft	Stainless steel 304
5 Impeller	POM/Stainless steel 304
6 Impeller fastener	Stainless steel 304
7 Cable cover	Stainless steel 304
8 Inlet part	Stainless steel 304
9 Shaft coupling	Stainless steel 304
10 Upper bearing housing	Stainless steel 304
11 Upper Bearing	Silicon carbide
12 PM Rotor	--
13 Stator	--
14 Pump housing	Stainless steel 304
15 Thrust bearing	Graphite
16 Lower bearing	Silicon carbide
17 Lower bearing housing	Stainless steel 304
18 PABA	--
19 Controller Housing	Stainless steel 304
20 Radiator	Aluminium
21 Inductor	--
22 base	Stainless steel 304

Model Description



System Components

- To extend the flexibility of the system, each package is supplied with,
- Samking Multistage 4" ,5" or 6" water pump to suit Head and flow
 - Samking Solar Motor AC/DC 2.2kW
 - Samking Monitor Sk3000 (optional)
 - GPRS(optional)
 - Flow Switch(optional)
 - Pressure Switch(optional)
 - Floating switch (optional)
 - Pressure tank(optional)

4sp Installation list

Products & accessories



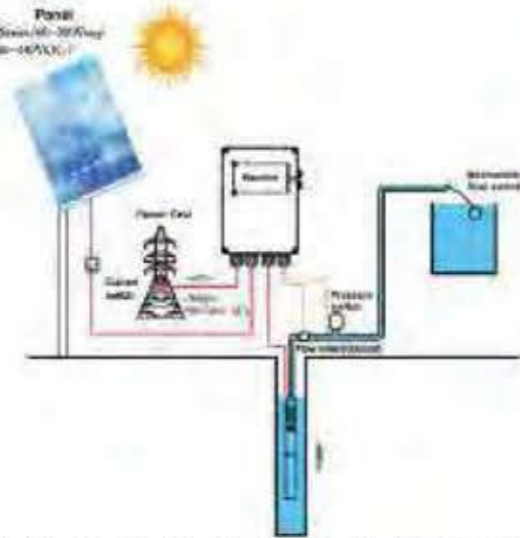
Common tools



DC & AC POWER WIRING

1. Solar On Grid System

Panel
1 Series/16-20Vmp
(60-60VDC)



Note:
1. Graphical wiring Panel power, can be directly replaced by batteries (Voltage 60-200V DC)

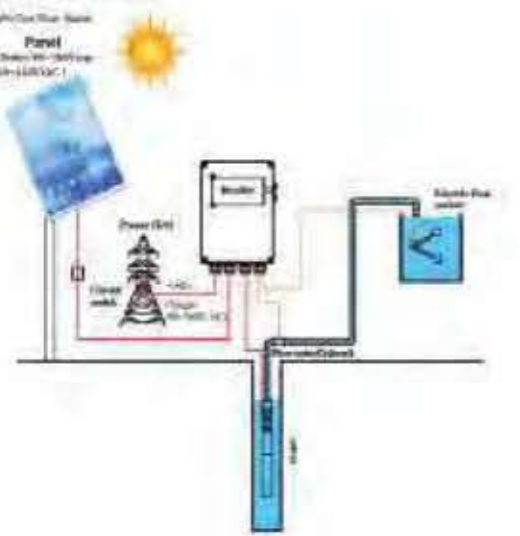


2. Graphical wiring power grid, can be directly replaced by the power supply of the Generator

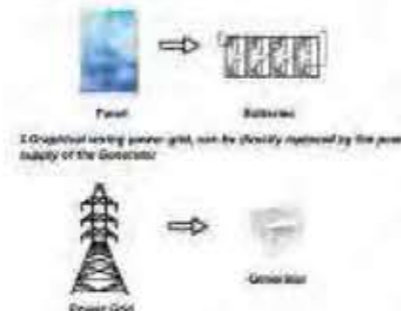
DC & AC POWER WIRING

2. Solar On Grid System

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(60-60VDC)



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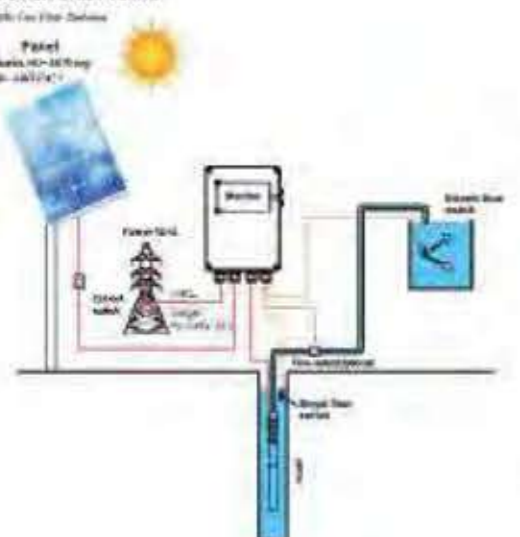


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DC & AC POWER WIRING

3. Solar On Grid System

Panel
1 Series/16-20Vmp
(60-60VDC)

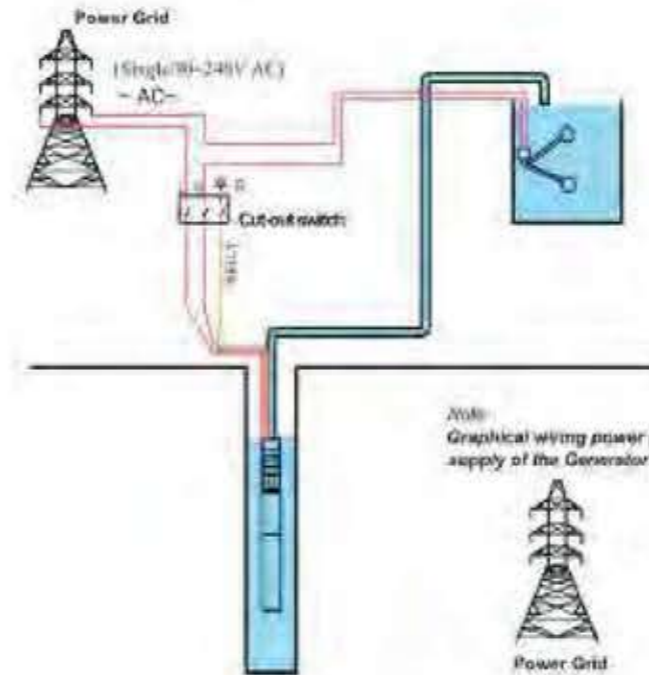


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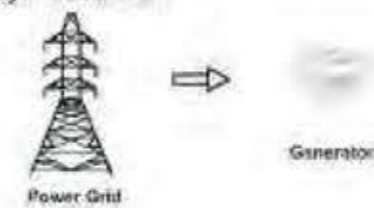


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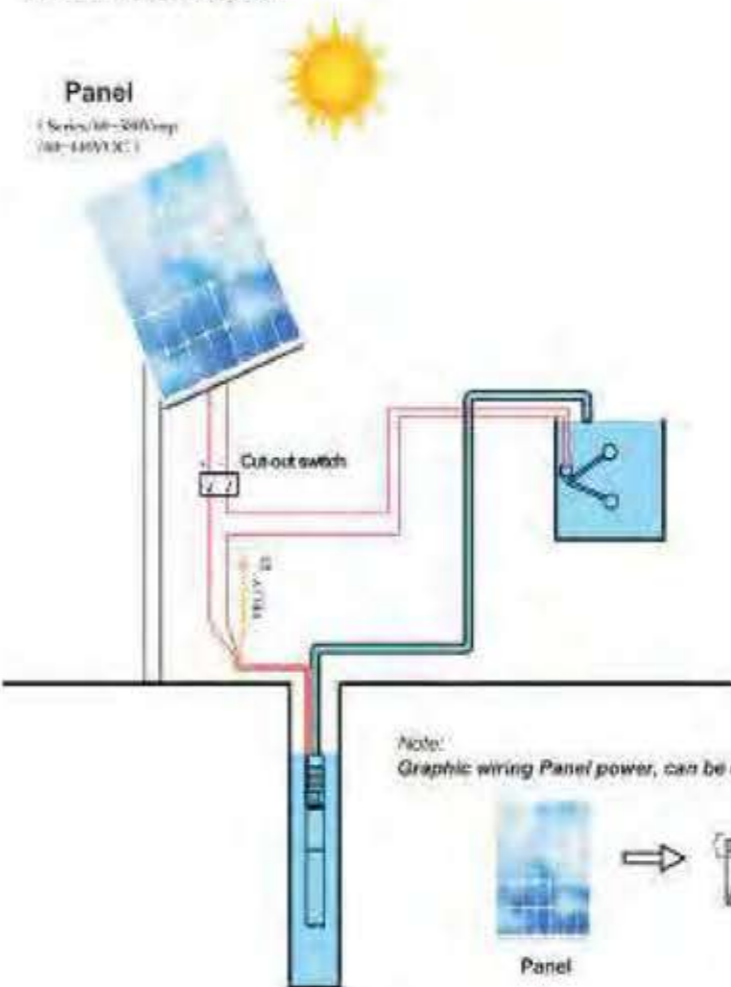
AC POWER WIRING



Note:
Graphical wiring power grid, can be directly replaced by the power supply of the Generator



DC POWER WIRING



Note:
Graphical wiring Panel power, can be directly replaced by batteries

